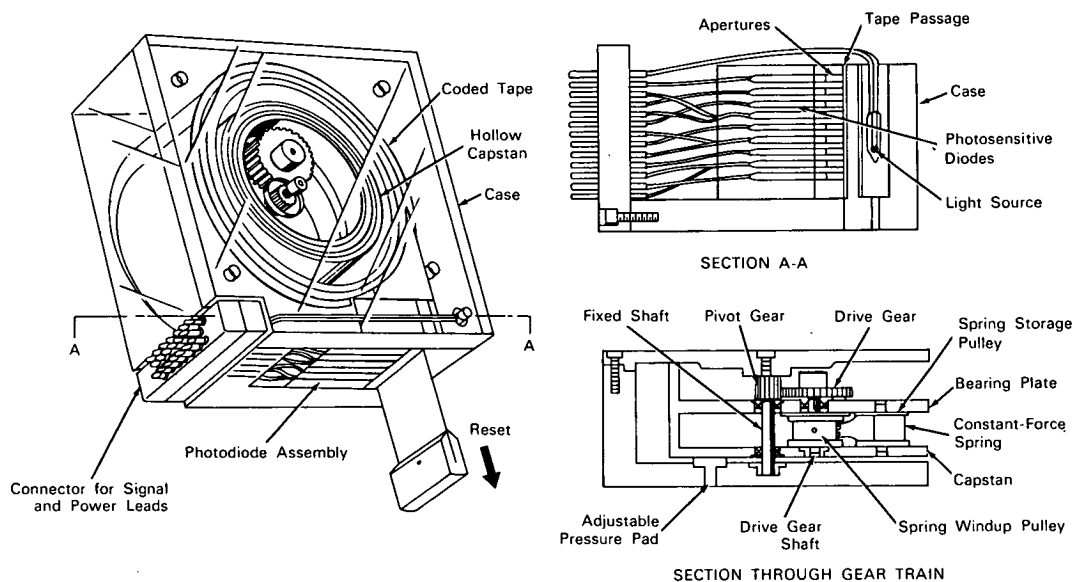


NASA TECH BRIEF



This NASA Tech Brief is issued by the Technology Utilization Division to acquaint industry with the technical content of an innovation derived from the space program.

Compact Cartridge Drives Coded Tape at Constant Readout Speed



The problem: Facilitating storage and repetitive reading of short-program coded tape.

The solution: A compact cartridge employing a mechanical drive to transport the tape at a constant speed past a conventional pickup device (such as a system of photosensitive diodes or magnetic heads) during the read function.

How it's done: The cartridge case, containing the mechanical drive and readout assemblies, may be fabricated from metal or plastic. The tape is wound on the outer circumference of a hollow capstan which is mounted on bearings around a fixed shaft. A photodiode assembly (used with punched tape) is mounted in the case to receive light passing through perforations in the tape. Signal and power leads are

brought out through a multicontact connector on the case.

The device is placed into operation by pulling the reset tab until the tape is completely unwound from the capstan. In the resetting process, the drive gear, which is rigidly mounted on a shaft together with a constant-force-spring windup pulley, engages the pivot gear so as to wind the spring from the storage pulley onto the windup pulley. After the reset tab is released, the stored energy in the spring rotates the capstan to rewind the tape at a constant speed through the passage between the light source and photosensitive diodes. The pressure pad may be adjusted to permit the spring to drive the capstan at selected constant speeds.

(continued overleaf)

Notes:

1. This compact tape package can be easily modified for use with an electric motor.
2. For magnetic tape, a magnetic pickup must be used in place of photodiodes and a light source.
3. Inquiries concerning this invention may be directed to:

Technology Utilization Officer
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, California, 91103
Reference: B64-10222

Patent Status: NASA encourages the immediate commercial use of this invention. Inquiries about obtaining rights for its commercial use may be made to NASA Headquarters, Washington, D.C., 20546.

Source: Donald C. Austin (JPL-472)